

ABSTRACT OF THE DISCLOSURE

The semiconductor device comprises: a memory cell transistor formed on a semiconductor substrate 10; insulation films 22, 30 covering the memory cell transistor; a buffer structure 40 formed on the insulation film; and a capacitor including a lower electrode 42 formed on the buffer structure 40 and electrically connected to the source/drain diffused layer 20; a capacitor dielectric film 44 formed on the lower electrode 42, and formed of a perovskite ferroelectric material having a smaller thermal expansion coefficient than that of the buffer structure 40 and having a crystal oriented substantially perpendicular to a surface of the lower electrode 42. The buffer structure for mitigating the influence of the stress from the substrate is formed below the lower electrode, whereby a polarization direction of the capacitor dielectric film can be made parallel with a direction of an electric field applied between the upper electrode and the lower electrode. An intrinsic polarization of the ferroelectric film can be utilized as it is.